UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,853	03/08/2004	Reinhard Engel	P2003,0162	3187

21495 7590 02/28/2006

CORNING CABLE SYSTEMS LLC
P O BOX 489
HICKORY, NC 28603

EXAMINER	
CHIEM, DINH D	
ART UNIT	**PAPER NUMBER**
2883	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

P/V

Office Action Summary	Application No.	Applicant(s)	
	10/795,853	ENGEL, REINHARD	
	Examiner	Art Unit	
	Erin D. Chiem	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/8/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the amendment filed on December 8, 2005. All of the claims have been amended and currently, claims 1-12 are pending. In view of the amendment to the claims and the Specification, the drawing objection, claim objections (claims 1 and 7) and the claim rejections made under 35 USC 112 first and second paragraph is herein withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-3, 7-10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Rowland et al. (GB 2,227,572 A "Rowland" hereinafter).

Regarding claim 1-3, 6-10, and 12 Rowland discloses a process for manufacture of an optical transmission element (1) having at least one optical waveguide (2) with a slot element (3) surrounding the at least one optical waveguide and defining an interior space, the process comprising the steps of:

applying a filling compound intermittently to the at least one optical waveguide (page 4, third paragraph), wherein the filling compound is applied in a liquid state (page 3, fourth line after the Figure summary);

feeding the at least one optical waveguide into an extruder to form a slot element around the at least one optical waveguide (Rowland refers to the well-known term in the art "loose tube manufacturing line" page 3);

wherein the filling compound expands within the slot element (Rowland refers to this reactive state as "a viscous filling material which is cross-linkable by exposure to electromagnetic radiation" the term cross-link is understood in the art that a resin reacting to the curing radiation and resulting in the transformation from a viscous material into a foam material see page 2), thereby forming a plurality of dry, compressible elements that are disposed about the at least one optical waveguide.

Regarding claim 2, Rowland discloses the filling compound is a polyurethane material (page 3).

With regard to claims 7-10, the transmission element is the product of the claims 1-3 and the limitations of claims 7-10 are not patentably distinct from claims 1-3, thus the rejection applied to claims 1-3 are also applied to claims 7-10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowland in view of Hale et al. (US 5,007,703 "Hale" hereinafter).

Rowland discloses a process for manufacture of an optical transmission element (1) having at least one optical waveguide (2) with a slot element (3) surrounding the at least one optical waveguide and defining an interior space, the process comprising the steps of:

applying a filling compound intermittently to the at least one optical waveguide (page 4, third paragraph), wherein the filling compound is applied in a liquid state (page 3, fourth line after the Figure summary);

feeding the at least one optical waveguide into an extruder to form a slot element around the at least one optical waveguide (Rowland refers to the well-known term in the art "loose tube manufacturing line" page 3);

wherein the filling compound expands within the slot element (Rowland refers to this reactive state as "a viscous filling material which is cross-linkable by exposure to electromagnetic radiation" the term cross-link is understood in the art that a resin reacting to the curing radiation and resulting in the transformation from a viscous material into a foam material see page 2), thereby forming a plurality of dry, compressible elements that are disposed about the at least one optical waveguide.

However, Rowland does not explicitly disclose the filling compound begins to expand within the slot element after leaving the extruder.

Hale discloses in Fig. 2 the manufacturing process of wherein the filling compound is mixed and injected (16) into the slot element provided by drum (10) and the die (17) closes the slot element. The filling compound expands before reaching the drum (19). Since litter

information is disclosed regarding the specific extruder that applicant uses, the examiner considers the exit of the extruder is leftward from the arrow labeled '12'. Thus reading on the limitation of claim 4.

Regarding the delay period of 1-300 seconds, since the range is so wide and Hale teaches the cure time should be of few seconds reads upon the delay period of 1-300 seconds (col. 3 lines 20-42).

Since Rowland and Hale are both from the same field of endeavor, the purpose disclosed by Hale would have been recognized in the pertinent art of Rowland.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to recognize Hale's disclosure is an improvement of Rowland's for the discussion regarding the duration of the manufacturing process and the placement and time for injecting the filling in the manufacturing line. **The motivation** for injecting the filling compound into the fiber while the slot element is still opened, hence the Hale refers to the opened slot element "C-section" for the opened slot element resembles the letter C, for the purpose of waste management. By injecting the filling compound onto the fiber while the fiber is within the slot element prevents the filling compound from dripping thus wasted since the filling compound will be retained within the slot element prior to the closing at the die (17).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rowland in view of Bourget et al. (US 6,658,184 "Bourget" hereinafter).

Rowland discloses all of the limitations of the optical transmission element (1) in claim 7, however, Rowland does not explicitly disclose the filling compound includes a material that swells during water penetration.

Bourget discloses using a water-swellable powder within tube (4) (col. 2, line 58) to prevent water penetration into the cable.

Since Rowland and Bourget are both from the same field of endeavor, the purpose disclosed by Bourget would have been recognized in the pertinent art of Rowland.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace polyurethane cross-linked material with water-swellable powder as a water penetrating prevention means. **The motivation** for using a water-swellable powder is for applications wherein the cable is not exposed to extreme moisture such as undersea such that water-swellable powder is a suitable means to prevent moisture from degrading the fibers since water-swellable powder is a more economical water protection means than cross-linked material.

Response to Arguments

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to Notice of Reference Cited for a full list of references that are not relied

upon but read upon independent claims 1 and 7 and in combination read upon the dependent claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin D Chiem
Examiner
Art Unit 2883

Frank G. Font
Supervisory Primary Examiner
Technology Center 2800